

Tuesday, March 24, 2009

POSTER SESSION I: ENIGMATIC ENCELADUS AND INTRIGUING IAPETUS
6:30 p.m. Town Center Exhibit Area

Hanna B. J. Yeoh S. K. Goldstein D. B. Varghese P. L. Trafton L. M.
[Free-Molecular and Collisional Studies of Enceladus' Water Vapor Plumes](#) [#2389]

The free-molecular and the direct simulation Monte Carlo (DSMC) codes are used to simulate the water vapor plumes observed on the south pole of Enceladus during the three orchestrated flybys in 2005 by Cassini.

Lisse C. M. Weaver H. A. Perry M. E. Turtle E. P. Hibbits C. A. Dello Russo N.
[Comparing Enceladus to Comets: Implications for Their Outgassing Activity](#) [#2299]

Using results from Voyager and Cassini observations, we investigate the compositional similarities between Enceladus' plumes and cometary comae and compare the physical properties (densities, speeds, collimation) of the plumes and cometary jets.

Boice D. C. Goldstein R.
[Is Enceladus a Comet? A Cometary Perspective](#) [#1506]

The discovery of icy plumes emanating from Saturn's moon, Enceladus, by the Cassini spacecraft has raised questions about its cometary nature. Enceladus represents a transitional object, intermediate to the atmospheres of large satellites and the extended comae of comets.

Barr A. C.
[Limits on Heat Transport and Resurfacing Rates Due to Mobile Lid Convection Beneath Enceladus' South Polar Terrain](#) [#2378]

The high heat flux and intense surface deformation at Enceladus' south pole suggests that convective plumes reach close to the surface. I derive limits on the heat flux and resurfacing rate due to mobile lid convection.

Patthoff D. A. Kattenhorn S. A.
[Establishing a Long-Term Fracture History of the South Polar Terrain on Enceladus](#) [#2513]

Fracture mapping of the SPT on Enceladus will help to resolve the history of the tiger stripes and the surface of the moon through detailed analysis of the fracture types, orientations, and relative ages.

Hurford T. A. Bills B. G. Helfenstein P. Greenberg R. Hoppa G. V. Hamilton D. P.
[Using Geological Implications of a Physical Libration to Constrain Enceladus' Libration State](#) [#1631]

We describe how a physical libration might affect eruption variability, tidal shear heating and crack formation. These effects might be observable with Cassini data and allow the libration state to be constrained.

Morito H. Kimura J. Kawamura T. Morota T. Honda C. Kobayashi Y. Okada T.
[Sublimation Impact for the Temporal Change of Albedo Dichotomy on Iapetus](#) [#1621]

In this work, we evaluate the effect on icy sublimation and temporal change of surface albedo, and we try to reconstruct the original distribution the dark material on Iapetus.

Galuba G. G. Denk T. Neukum G.
[Dark Crater Surfaces in Bright Areas on the Saturn Moon Iapetus](#) [#1792]

The explanation why the Cassini Regio on Iapetus is dark is supplemented by an explanation why on the bright trailing side there are dark crater bottoms.